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EXAMINER	
STEVENS, BRIAN J	

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2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/556,835	GAEDKE ET AL.	
	Examiner	Art Unit	
	Brian J. Stevens	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,7 and 9-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,9,10,12,13 and 15-17* is/are rejected.

7)☒ Claim(s) *7,11 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to Application No. 10/556,835 filed on November 15th, 2005. This amendment presented on February 24th, 2009 which provides changes to claims 1, 4, 10 and 12 and cancels claims 5 and 8 is hereby acknowledged. Claims 1-4, 6, 7 and 9-17 remain pending.

Response to Arguments

2. Amendment to the drawings in response to the objection has been considered. The amendment to the drawings obviates previously raised objections as such this objection is hereby withdrawn.

3. Amendment to claim 4, in response to the objection has been considered. The amendment to the drawings obviates previously raised objections as such this objection is hereby withdrawn.

4. Amendment to claim 10 in response to the rejection under 35 USC 112 has been considered. The amendment to the claim obviates previously raised rejections; as such this rejection is hereby withdrawn.

5. Regarding claim 1, and the respective string of dependencies, as rejected under 35 USC 102(b) as being anticipated by Hirofumi, it is argued (Pages 8-10), that the

applied reference does not teach claim limitations of claim 1, specifically *data recovery from a time-continuous signal compliant to one of two or more digital signal formats.*

In response to the above-mentioned argument, applicant's interpretation of the prior art has been considered but they are not found to be persuasive. In response to applicant's arguments, the recitation "A method for data recovery from a time-continuous signal compliant to one of two or more digital signal formats each having a specific channel bit clock and a sync pattern occurring in regular intervals, the method comprising the following steps:" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

6. Regarding claim 1, and the respective string of dependencies, as rejected under 35 USC 102(b) as being anticipated by Hirofumi, it is argued (Pages 8-10), that the applied reference does not teach claim limitations of claim 1, specifically *two or more digital signal formats,* have been considered but are moot in view of the new ground(s) of rejection.

7. Regarding claim 1, and the respective string of dependencies, as rejected under 35 USC 102(b) as being anticipated by Hirofumi, it is argued (Pages 8-10), that the applied reference does not teach claim limitations of claim 1, specifically *recognizing, from the analysis information and the distance information, the one digital signal format among the two or more digital signal formats to which the signal complies.*

In response to the above-mentioned argument, applicant's interpretation of the prior art has been considered but they are not found to be persuasive. The term recognize as taken from the Webster dictionary, "to acknowledge or take notice of in some definite way", thus although the signal is not known coming in, the signal is still determined and recognized as a data steam in a definite way, rather then noise stream based upon analysis information and distance information. If the signal was not recognized in a definite way the data extraction part would not output data as explain in Paragraph [0020] of Hirofumi. The applicant argues that the office action concedes that Hirofumi does not teach the method of recognizing a signal, this is incorrect. The office action states that Hirofumi does not teach a separate "format recognizer" performing these functions. The method claim of 1 and the apparatus claim of claim 12 are two separate sets of limitations and do not stand or fall together.

8. Applicant's arguments with respect to claim 4, and the respective string of dependencies, have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's arguments with respect to claim 6 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments with respect to claim 9 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's arguments with respect to claim 10, and the respective string of dependencies, have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's arguments with respect to claim 12, and the respective string of dependencies, have been considered but are moot in view of the new ground(s) of rejection.

13. Applicant's arguments with respect to claim 13 have been considered but are moot in view of the new ground(s) of rejection.

14. Applicant's arguments with respect to claim 15 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

15. Claims 7, 11 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claim 1-3, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-013681 by Hirofumi, in view of US 2003/0176937 A1 by Janky.

18. Regarding claim 1, Hirofumi teaches a method for data recovery from a time-continuous signal compliant to one of two or more digital signal formats each having a specific channel bit clock and a specific sync pattern occurring in regular intervals, the method comprising the following steps:

sampling the time-continuous signal (See Paragraph [0001], “samples the multi-value data currently recorded on recording media, such as an optical disc, and the sampling of that multi-value data”) at a frequency at least as high as the maximum of all frequencies of the channel bit clocks of the digital signal formats (See Paragraph [0014], “multi-value data is sampled and outputted from the playback signal of the information recorded on the optical disc”, since no disc is specified such as a DVD or CD-ROM, any

optical disc is sampled, thus at the maximum of all frequencies of the bit clock of the digital signal formats);

analyzing the sampled signal (See Paragraph [0004], “and analog-to-digital conversion mean", which samples the signal) to locate occurrences of one or more of the sync patterns (See Paragraph [0004], " A synchronized signal detection means to detect the above-mentioned pattern”), thereby making available, as an analysis information, where in the sampled signal which ones of the sync patterns are located (See Paragraph [0004], " A synchronized signal detection means to detect the above-mentioned pattern”, where in order to detect the signal, the location must also be found. Also see Claim 1, "A multi-value data cycle calculation means to ask for the time interval between the minimums which adjoin the time interval between the adjoining maximum,” where the locations are thus passed along to another portion, thus making available for analysis);

calculating from the analysis information a distance information about the distance between consecutive locations of sync patterns (See Claim 1, "A multi-value data cycle calculation means to ask for the time interval between the minimums which adjoin the time interval between the adjoining maximum,”);

recognizing, from the analysis information and the distance information, the signal format to which the signal complies (See Paragraph [0020], “the data extraction part 6 samples the data for every cycle computed by the multi-value data cycle calculation part 5 as multi-value data, and outputs it. Thus, based on the pattern data”, where the pattern data tells it which signal format the signal complies),

converting the sampled signal into a converted signal which represents the data at the channel bit clock (See Abstract, “data are sampled from information for each prescribed amount for each period by a data extracting part 6 by making either of each maximum value or each minimum value into a reference value, and are outputted”), but does not teach recognizing one digital signal formation amount the two or more digital signal formats.

Janky teaches the knowledge of recognizing at least one signal format from at least two or more signal formats (See Paragraph [0028], "the data interface 54 may be a universal data interface that recognizes any of a large number of digital formats that are used with various information packages (packets, frames, cells, etc.).”), is well known in the art.

19. It would have been obvious to one of ordinary skill in the art having the teachings of Hirofumi and Janky before them at the time the invention was made, to modify the apparatus of Hirofumi to further include recognizing one type of digital signal formation amount the two or more digital signal formats. In order to be a more versatile and effective receiver more then one type of data must be accept, but that would also mean determining which type of recovery would be necessary since the data is arranged differently with each format. One of ordinary skill in the art would be motivated to make the modification to include recognizing one type of digital signal formation amount the two or more digital signal formats.

20. Regarding claim 2, Hirofumi together with Janky taught the method of claim 1, as described above. Hirofumi further teaches where the step of converting includes the following steps:

calculating from the analysis information and/or the distance information a channel bit rate and/or the channel bit clock (See Paragraph [0020], “the data extraction part 6 samples the data for every cycle computed by the multi-value data cycle calculation part 5 as multi-value data, and outputs it. Thus, based on the pattern data”, where the sampling time/bit clock was found from the analysis information), and

converting the sampled signal to the sampling rate defined by the calculated channel bit rate or bit clock (See Abstract, “data are sampled from information for each prescribed amount for each period by a data extracting part 6 by making either of each maximum value or each minimum value into a reference value, and are outputted”).

21. Regarding claim 3, Hirofumi together with Janky taught the method of claim 1, as described above. Hirofumi further teaches additionally including the following step:

after analyzing the sampled signal (See Figure 1, [4], "The synchronized signal primary detecting element 4 achieves the function of a synchronized signal detection means to detect the above-mentioned pattern data of the above-mentioned synchronized signal from the data which was changed by the A/D conversion part 1 and stored in the memory 3.”, where the sampled signal is analyzed), providing for further use (See Figure 1, where [4] sends the signal along to [5]) as frame alignment information the locations where sync patterns have been located (See Paragraph

[0016], "The multi-value data cycle calculation part 5 detects all the maximums and minimums from the above-mentioned pattern data of the above-mentioned synchronized signal detected by the synchronized signal primary detecting element 4.". See Paragraph [0016], "The function of a sampling means [6] to sample and output data from the information for every above-mentioned specified quantity which was changed by the A/D conversion part 1 for every above-mentioned cycle computed by the multi-value data cycle calculation part 5 by making any one of each above-mentioned maximum and each of the minimum into a fiducial point, and was accumulated in the memory 3 is achieved", where the information from [4] was used for frame alignment when sampled by [6]).

22. Regarding claim 16, Hirofumi together with Janky taught the method of claim 1, as described above. Hirofumi further teaches where the time-continuous signal is a readout signal from a digital storage medium (See Figure 1, [3] being the digital storage medium, See Paragraph [0015], "A memory 3 stores the data changed in the A/D conversion part 1").

23. Regarding claim 17, Hirofumi together with Janky taught the method of claim 1, as described above. Hirofumi further teaches where the time-continuous signal is a received signal from a digital transmission (See Figure 1, the input to [1]. Also See Paragraph [0018], "A/D conversion part 1 inputs the reproduction signal of an analog signal").

24. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-013681 by Hirofumi, in view of US 2003/0176937 A1 by Janky, in further view of US 4,347,618 by Kavouras et al.

25. Regarding claim 4, Hirofumi together with Janky taught the method of claim 2 as described above, but do not tech further comprising after locating a sync pattern occurrence, decoding from the sampled signal or from a sample rate converted sampled signal a readout an address information contained therein.

Kavouras teaches the knowledge of locating a sync pattern occurrence (See Column 48, Lines 64 though Column 49 Line 42, specifically "happens when the sync pattern is detected") and decoding an address information (See Column 49 Line 50 through Column 50 Line 24, specially "it can be seen that sync is handled by PROM 11-8 in essentially the same fashion as data, as far as address formats and decoding is concerned") contained from a sampled signal (See Column 49 Line 50 through Column 50 line 24, specially "Since the count frequency for sync has been quadrupled, in order to arrive at a similar address for the PROM 11-8, every half-cycle comprises a sample"), is well known in the art.

26. It would have been obvious to one of ordinary skill in the art having the teachings of Hirofumi, Janky and Kavouras before them at the time the invention was made, to modify the method of Hirofumi and Janky to further include having after locating a sync pattern occurrence, decoding from the sampled signal or from a sample rate converted sampled signal a readout an address information contained therein. Once the specific

type of data signal is determined it would be advantageous to have information decoded from the signal, one choice would be to find a readout address from the signal. One of ordinary skill in the art would be motivated to make the modification to include having after locating a sync pattern occurrence, decoding from the sampled signal or from a sample rate converted sampled signal a readout address information contained therein.

27. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-013681 by Hirofumi, in view of US 2003/0176937 A1 by Janky, in further view of US 2002/0190203 A1 by Valaskovic et al.

28. Regarding claim 6, Hirofumi together with Janky taught the method of claim 1, as described above, but do not teach where the step of analyzing employs a cross-correlation.

Valaskovic teaches the knowledge of using the step of cross-correlation in order to analyze data to determine a pattern (See Claim 41, "wherein the pattern matching is based on cross-correlation analysis of the actual waveform and reference waveforms"), is well known in the art.

29. It would have been obvious to one of ordinary skill in the art having the teachings of Hirofumi, Janky and Valaskovic before them at the time the invention was made, to modify the method of Hirofumi and Janky to further include having where the step of analyzing employs a cross-correlation. Through the use of cross-correlation, a specific pattern can be found with great accuracy, thus improving the data being analyzed. One

of ordinary skill in the art would be motivated to make the modification to include the step of cross-correlation in order to analyze data to determine a pattern.

30. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-013681 by Hirofumi, in view of US 2003/0176937 A1 by Janky, in further view of US 4,347,618 by Kavouras et al., in view of US 2003/0151988 A1 by Katayama.

31. Regarding claim 9, Hirofumi together with Janky and Kavouras taught the method of claim 4, as described above, but do not teach where a maximum likelihood decoder is applied for the decoding step.

Katayama teaches the knowledge of having a maximum likelihood decoder as the decoding device (See Abstract, "A reproducing signal obtained from a magneto-optical disk is subjected to maximum-likelihood decode in a maximum-likelihood decoder"), is well known in the art.

32. It would have been obvious to one of ordinary skill in the art having the teachings of Hirofumi, Janky, Kavouras and Katayama before them at the time the invention was made, to modify the method of Hirofumi, Janky and Kavouras to further include having a maximum likelihood decoder is applied for the decoding step. There are a finite amount of decoders to be used, and it would be obvious to try a maximum likelihood decoder since it would be useful to fit a mathematical model to some type of data. One of ordinary skill in the art would be motivated to make the modification to include a maximum likelihood decoder as the decoding device.

33. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-013681 by Hirofumi, in view of US 2003/0176937 A1 by Janky, in further view of US 6,788,753 B1 by Brown.

34. Regarding claim 10, Hirofumi together with Janky taught the method of claim 1, as described above, but do not teach where the analyzing step involves the following sub-steps

a) setting as a current sync pattern a first sync pattern from a finite set of different sync patterns,

b) analyzing the sampled signal to find positions of the current sync pattern,

c) if no positions are being found and the last sync pattern in the set has not been reached, setting as the current sync pattern the next sync pattern from the set and looping back to sub-step b).

Brown teaches the knowledge of selecting as a current sync pattern to look for from a finite set of different sync patterns (See Claim 1, “selecting a sync pattern for detection”), then analyzing the sampled signal to find positions of the current sync pattern (See Claim 1, " detecting a sync pattern sequence from the data stream with a first sync detection filter”), then if no positions of the current sync pattern has been found, continue on the list of sync patterns and setting to look for the next sync pattern by starting over in the incoming data stream (See Claim 1, " if detection of the subsequent sync pattern fails a predetermined number of sequential times, using a second sync detection filter to detect a new sync pattern”), is well known in the art.

35. It would have been obvious to one of ordinary skill in the art having the teachings of Hirofumi, Janky and Brown before them at the time the invention was made, to modify the method of Hirofumi and Janky to further include having the analyzing step involves the following sub-steps a) setting as a current sync pattern a first sync pattern from a finite set of different sync patterns, b) analyzing the sampled signal to find positions of the current sync pattern, c) if no positions are being found and the last sync pattern in the set has not been reached, setting as the current sync pattern the next sync pattern from the set and looping back to sub-step b). Since multiple different types of sync patterns are known depending upon what type data is being transmitter; by having the analyzer choose a first sync pattern to search for rather then multiple ones at once, makes the circuitry smaller less costly to produce. One of ordinary skill in the art would be motivated to make the modification to include selecting as a current sync pattern to look for from a finite set of different sync patterns, then analyzing the sampled signal to find positions of the current sync pattern, then if no positions of the current sync pattern has been found, continue on the list of sync patterns and setting to look for the next sync pattern by starting over in the incoming data stream.

36. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-013681 by Hirofumi, in view of US 2002/0045461 A1 by Bongfeldt, in further view of US 6,507,299 B1 by Nuijten.

37. Regarding claim 12, Hirofumi teaches an apparatus for recovering a channel bit clock from a time-continuous signal compliant to one of two or more digital signal

formats each having a specific channel bit clock and a specific framing structure including a specific sync pattern occurring in regular intervals, the apparatus including:

sampling means which generate a sampled signal from the time-continuous signal (See Paragraph [0001], “he multi-value data sampling equipment applied to the optical disk unit which plays and samples the multi-value data currently recorded on recording media, such as an optical disc”);

analogue to digital conversion means (See Figure 1, [1]) connected to the sampling means (See Figure 1, where [1] receives a sampled signal from the “sampling means”) and sample rate conversion means (See Figure 1, [3], [4], [5] and [6]);

the apparatus comprising:

an analyzer (See Figure 1, [4]) adapted to analyze the sampled signal to locate occurrences of one or more of the sync patterns (See Paragraph [0015], “synchronized signal primary detecting element 4 achieves the function of a synchronized signal detection means to detect the above-mentioned pattern data of the above-mentioned synchronized signal from the data which was changed by the A/D conversion part 1 and stored in the memory 3”) thereby making available, as an analysis information (See Paragraph [0016], of the above-mentioned synchronized signal detected by the synchronized signal primary detecting element 4", where the data found is passed along), where in the sampled signal which ones of the sync patters are located (See Paragraph [0016], “part 5 detects all the maximums and minimums from the above-mentioned pattern data”, where in order to know where to start detecting the minimums

and maximums the detector would have to know where to start, thus where the sync patterns are located)

a calculator (See Figure 1, [5]) adapted to calculate a channel bit rate and/or the channel bit clock from the locations where sync patterns are located (See Paragraph [0019], where the channel bit rate is found), but does not teach detecting a distance between consecutive locations of sync patterns; and

a format recognizer adapted to recognize, from the analysis information and the distance information, the signal format to which the signal complies.

Hirofumi further teaches wherein the sample rate conversion means (See Figure 1, [6]) convert its input data to output data obeying an output sample rate equal to the channel bit rate or bit clock as calculated by the calculator (See Paragraph [0016], "the data extraction part 6] The function of a sampling means to sample and output data from the information for every above-mentioned specified quantity which was changed by the A/D conversion part 1 for every above-mentioned cycle computed by the multi-value data cycle calculation part 5 by making any one of each above-mentioned maximum and each of the minimum into a fiducial point, and was accumulated in the memory 3 is achieved").

Bongfeldt teaches the knowledge having a format recognizer (See Figure 2, [42]) that can recognize the signal format of a signal (See Paragraph [0068], "the micro controller 42 to determine the signal format") that has been sampled (See Paragraph [0068], "supplies an RF sample signal), though analysis of that signal (See Paragraph [0068], "selectable BPF 100 and detection log amplifier 102 operate to detect the power

level and number of desired RF signals within the uplink channel 36, and this information can be used"), is well known in the art.

Nuijten teaches the knowledge of calculating distance between consecutive locations of sync patterns and a channel bit rate from the information (See Column 4, Lines 26-40, specifically, "Note that if the sync bits s.sub.j are part of the embedded watermark as taught by the prior art, i.e. if they are also spaced apart by 9 audio bits" and "he shift register is clocked at the channel bit rate"), is well known in the art.

38. It would have been obvious to one of ordinary skill in the art having the teachings of Hirofumi, Bongfeldt and Nuijten before them at the time the invention was made, to modify the apparatus of Hirofumi to further include having a format recognizer adapted to recognize, from the analysis information and the distance information, the signal format to which the signal complies. In order to know which type of signal needs to be re-sampled and output correctly, a unit would need to be present to determine which method would be used to output the signal accurately. One of ordinary skill in the art would be motivated to make the modification to include having a format recognizer that can recognize the format of a signal that has been sampled, though analysis of that signal.

39. Regarding claim 13, Hirofumi together with Bongfeldt and Nuijten taught the apparatus of claim 12, as described above. Hirofumi further teaches where the sample rate conversion means (See Figure 1, [3], [4], [5] and [6]) includes two or more units working in parallel (See Figure 1, [3] with [4] and [5] as unit 1 and [3] and [6] working as

unit 2), each consisting of a storage means (See Figure 1, [3] for both units 1 and 2) and an associated interpolation means (See Figure 1, [4] and [5] for unit 1, and [6] for unit 2).

40. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-013681 by Hirofumi, in view of US 2002/0045461 A1 by Bongfeldt, in further view of US 6,507,299 by Nuijten, in further view of US 6,788,753 B1 by Brown.

41. Regarding claim 15, Hirofumi together with Bongfeldt and Nuijten taught the apparatus of claim 12, as described above, but do not teach where the analyzer includes a sync pattern selector for selecting as current sync pattern one sync pattern from a finite set of different sync patterns and a loop back controller for looping back to an analyzing step whenever for a certain current sync pattern no occurrences have been found.

Brown teaches the knowledge of selecting as a current sync pattern to look for from a finite set of different sync patterns (See Claim 1, “selecting a sync pattern for detection”), then analyzing the sampled signal to find positions of the current sync pattern (See Claim 1, " detecting a sync pattern sequence from the data stream with a first sync detection filter”), then if no positions of the current sync pattern has been found, continue on the list of sync patterns and setting to look for the next sync pattern by starting over in the incoming data stream (See Claim 1, " if detection of the subsequent sync pattern fails a predetermined number of sequential times, using a second sync detection filter to detect a new sync pattern”), is well known in the art.

42. It would have been obvious to one of ordinary skill in the art having the teachings of Hirofumi, Bongfeldt, Nuijten and Brown before them at the time the invention was made, to modify the apparatus of Hirofumi, Bongfeldt and Nuijten to further include having the analyzer include a sync pattern selector for selecting as current sync pattern one sync pattern from a finite set of different sync patterns and a loop back controller for looping back to an analyzing step whenever for a certain current sync pattern no occurrences have been found. Since multiple different types of sync patterns are known depending upon what type data is being transmitter; by having the analyzer choose a first sync pattern to search for rather then multiple ones at once, makes the circuitry smaller less costly to produce. One of ordinary skill in the art would be motivated to make the modification to include selecting as a current sync pattern to look for from a finite set of different sync patterns, then analyzing the sampled signal to find positions of the current sync pattern, then if no positions of the current sync pattern has been found, continue on the list of sync patterns and setting to look for the next sync pattern by starting over in the incoming data stream.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Stevens whose telephone number is (571)270-3623. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BS/
/Brian J. Stevens/

/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611